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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,856	08/09/2001	Masahiko Yokota	1232-4755	3804
27123	7590	02/08/2005	EXAMINER	
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			LEE, CHEUKFAN	
			ART UNIT	PAPER NUMBER
			2622	

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/925,856

Applicant(s)

YOKOTA ET AL.

Examiner

Cheukfan Lee

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-17 is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/01,9/03,4/04</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. Claims 1-17 are pending. Claims 1 and 10 are independent.

2. Claim 9 is objected to because of the following:

In claim 9, lines 7-8 of the claim, "capable of placed" should read – capable of being placed --.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4, 5, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Endo (U.S. Patent No. 5,489,992).

Regarding claim 1, Endo discloses an image sensor unit comprising an illumination section (12 in Fig. 3 and 212 in Fig. 5) including a light source (LED 212c in Figs. 5 and 6) and a light guide (212) to illuminate a document (30); an image sensing element (sensor chip 18) for converting an optical image of the document into an electrical signal, a cylindrical lens (16) for focusing the optical image on the image sensing element (16), and a frame (10) for holding the illumination section (12, 212), the image sensing element (18), and the lens (16). The light guide (12, 212) is coated with black paint on its sides except the light exiting side (12a, 212a) (Figs. 5 and 6) (col. 3, lines 27-50, col. 5, lines 35-50, col. 6, line 59 – col. 7, line 10). The coating with black

paint reads on the claimed antireflection treatment on a surface thereof on the document side.

Regarding claim 2, the treatment is coating with a black paint as discussed for claim 1.

Regarding claim 4, according to Figs. 1 and 2, the upper surface of the light guide (12) other than the emission surface (12a) is inclined relative to the lower surface of the document (30).

Regarding claim 5, see the two illumination sections (12 and 112 in Fig. 3) so disposed as to sandwich the lens (16).

Regarding claim 7, the frame (10) is considered open on the document side since no frame is covering the top of the light guide (12, 112).

Regarding claim 8, the claimed moving mechanism for moving a relative position between the image sensor unit and scanning by the relative movement are inherently disclosed by Endo because the image sensor unit of Endo is used in a facsimile apparatus or a scanner, which includes a moving mechanism as claimed (col. 1, lines 8-11).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Endo (U.S. Patent No. 5,489,992) in view of Tabata (U.S. Patent No. 6,081,351).

Regarding claim 3, Endo discussed for claim 1 above does not disclose that the antireflection treatment is a surface treatment for forming a roughened or finely corrugated surface. The antireflection treatment in Endo is coating in black paint.

Tabata teaches forming a roughened surface on a light source (7) in an image sensor unit so as to direct light in a desire direction (Fig. 9).

One of ordinary skill in the art would have realized that by making the roughened surface with saw teeth pointing to appropriate angles, light is reflected to the desired direction, a direction away from the document reading position.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the concept of Tabata to form a roughened surface on the upper surface of the light guide (12) of Endo, instead of coating the surface in black, so that the light such as ambient light falling on the upper surface is directed away from around the focusing point of line of the lens, in order to produce a high quality image and to avoid having the upper surface of the light guide looking all black.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Endo (U.S. Patent No. 5,489,992) and Tabata et al. (U.S. Patent No. 6,333,779).

Regarding claim 6, Endo discussed for claim 1 above differs from the claimed invention in that the distance from the image sensing element (18) to the surface of the light guide (12, 112, 212) on the document side is not shorter than the distance from the

image sensing element (18) to an end of the lens (16) on the document side. However, the claimed arrangement is taught by Tabata et al. In Tabata et al. discloses an illumination apparatus having a light guide in a contact type image sensor. The distance from the image sensing element (11) to the surface of the light guide on the document side is shorter than the distance from the image sensing element (11) to an end of the cylindrical lens (7) on the document side. It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrange the light guide and the lens by lowering the position of the light guide of Endo to a position such that the distance from the image sensing element (18) to the surface of the light guide (12, 212) on the document side is shorter than the distance from the image sensing element (18) to an end of the lens (16) on the document side as taught by Tabata et al., in order to shorten the vertical dimension of the whole contact image sensor.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Endo (U.S. Patent No. 5,489,992) in view of Kao (U.S. Patent No. 6,563,611).

Regarding claim 9, Endo discussed for claim 8 above does not explicitly disclose a transparent plate for placing and supporting the document and a support portion for supporting an end portion of the transparent plate, and that part of the image sensor unit is capable of being placed below the support portion. Endo's image sensor is applied to a scanner (col. 1, line 8-11).

Kao discloses a scanner having an image information reading device, which is a contact image sensor (27, 52) (col. 3, line 50). The image sensor (52) is moved in the

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subscanning direction under a transparent plate (55) on which a document is placed for scanning. Both ends of the transparent plate are supported by support portions of the scanner frame (51). As shown in Fig. 4, the image sensor (52) is capable of being placed below the support portion of the frame (51).

The image sensor of Endo is also a contact image sensor (col. 6, line 60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the image sensor unit of Kao with the image sensor unit of Endo to produce a scanner of reduced vertical dimension.

9. Claims 10-17 are allowed.

10. The following is an examiner's statement of reasons for allowance:

Independent claim 10 is allowable over the prior art of record because the prior art does not teach an image sensor unit having the combination of the claimed pair of illumination sections disposed to sandwich the lens, and claimed light guides of the pair having exit ports formed such that a peak of exit light is farther than a focal position of the lens for the image sensing element with respect to the image sensing element, the focal position being included in a beam crossing region of exit beams from the pair of illumination sections.

Claims 11-17 depend upon claim 10.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shirata et al. (U.S. Patent No. 5,019,897) discloses a scanning apparatus for reading an image of a book document, having two light sources for illuminating a raised upon portion of the book. The peak of exit light of the two light sources occurs at the focal position of the lens.

Sako et al. (U.S. 6,724,503) discloses an image sensor unit for scanning a document placed on a transparent plate (70).

Suzuki et al. (U.S. Patent No. 4,930,008) discloses a scanner for reading color image, having an image sensor unit with an open frame (Fig. 4).

Furusawa et al. (U.S. Patent No. 6,357,903) discloses a line type illuminator (Fig. 1).

Matsumoto (U.S. Patent No. 6,573,487) discloses an image sensor having a pair of light sources.

Fujino et al. (U.S. Patent No. 6,783,254) discloses a light guide in a line illuminating device.

Fujimoto et al. (U.S. Patent No. 6,496,285) discloses an image reading apparatus.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheukfan Lee whose telephone number is (703) 305-4867. The examiner can normally be reached on 9:30 a.m. to 6:00 p.m., Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (703) 305-4712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cheukfan Lee
Feb. 5, 2005



Cheukfan Lee